SAFETY DATA SHEET

Safety Data Sheet according to GB/T 16483-2008 and GB/T 17519-2013

Date of issue/Date of revision 29 August 2026

Version 1.08

Section 1. Chemical product and company identification

Product code : 000010023188

Product name : SIGMACOVER 456 KRA HARDENER

Product name : SIGMACOVER 456 KRA HARDENER

Other means of identification : 00243506

Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Product use : Professional applications, Used by spraying.

Use of the substance/ mixture : Coating.

Uses advised against : Not applicable.

Supplier's details : PPG Coatings (Kunshan) Co., Ltd
53 Jinyang Road, Lujia Town,
215331 Kunshan City, Jiangsu Province, P.R. China
Tel: 86 512 57678859 Fax: 86 512 57678857

Emergency telephone number (with hours of operation) : 00 86 532 83889090

Section 2. Hazards identification

Classification of the substance or mixture according to GB 30000.1-30

Emergency overview

Liquid.
Clear.

Characteristic.

Flammable liquid and vapor.
May be harmful if swallowed or in contact with skin.
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
Causes serious eye damage.
Harmful if inhaled.
May cause drowsiness or dizziness.
Suspected of causing cancer.
Toxic to aquatic life.
Toxic to aquatic life with long lasting effects.

Causes digestive tract burns. Prolonged or repeated contact may dry skin and cause irritation.

Section 2. Hazards identification

IF exposed or concerned: Get medical advice or attention. IF INHALED: Immediately call a POISON CENTER or doctor. IF SWALLOWED: Immediately call a POISON CENTER or doctor. IF ON SKIN (or hair): Immediately call a POISON CENTER or doctor. If skin irritation or rash occurs: Get medical advice or attention. IF IN EYES: Immediately call a POISON CENTER or doctor.

See Section 12 for environmental precautions.

Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 3
ACUTE TOXICITY (oral) - Category 5
ACUTE TOXICITY (dermal) - Category 5
ACUTE TOXICITY (inhalation) - Category 4
SKIN CORROSION/IRRITATION - Category 1C
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
SKIN SENSITIZATION - Category 1
CARCINOGENICITY - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
AQUATIC HAZARD (ACUTE) - Category 2
AQUATIC HAZARD (LONG-TERM) - Category 2

Percentage of the mixture consisting of ingredient(s) of unknown acute oral toxicity: 18.4%
Percentage of the mixture consisting of ingredient(s) of unknown acute dermal toxicity: 30%
Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 59.8%

Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 18.4%

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : Flammable liquid and vapor.
May be harmful if swallowed or in contact with skin.
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
Causes serious eye damage.
Harmful if inhaled.
May cause drowsiness or dizziness.
Suspected of causing cancer.
Toxic to aquatic life.
Toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves, protective clothing and eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating or lighting equipment. Use non-sparking tools. Take action to prevent static discharges. Ground and bond container and receiving equipment. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Avoid breathing vapor. Wash thoroughly after handling. Contaminated work clothing

Section 2. Hazards identification

should not be allowed out of the workplace.

Response : Collect spillage. IF exposed or concerned: Get medical advice or attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor. IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor. If skin irritation or rash occurs: Get medical advice or attention. Wash contaminated clothing before reuse. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.

Suitable extinguishing media : Use dry chemical, CO_2, water spray (fog) or foam.

Storage : Store locked up. Store in a well-ventilated place. Keep container tightly closed. Keep cool.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Physical and chemical hazards : Flammable liquid and vapor.

Health hazards : May be harmful if swallowed or in contact with skin. Causes severe skin burns and eye damage. May cause an allergic skin reaction. Causes serious eye damage. Harmful if inhaled. May cause drowsiness or dizziness. Suspected of causing cancer. Causes digestive tract burns. Prolonged or repeated contact may dry skin and cause irritation.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain
watering
redness

Inhalation : Adverse symptoms may include the following:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
dryness
cracking
blistering may occur

Ingestion : Adverse symptoms may include the following:
stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Section 2. Hazards identification

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Environmental hazards : Toxic to aquatic life. Toxic to aquatic life with long lasting effects.

Other hazards which do not result in classification : Causes digestive tract burns. Prolonged or repeated contact may dry skin and cause irritation.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : 00243506

CAS number/other identifiers

CAS number : Not applicable.

Ingredient name	%	CAS number
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine	10 - <25	68082-29-1
xylene isomers mixture	10 - <25	1330-20-7
Solvent naphtha (petroleum), light aromatic	10 - <25	64742-95-6
1-methoxy-2-propanol	10 - <25	107-98-2
1,2,4-trimethylbenzene	1 - <10	95-63-6
2,4,6-tris(dimethylaminomethyl)phenol	1 - <10	90-72-2
ethylbenzene	1 - <10	100-41-4
3,6-diazaoctanethylenediamin	1 - <10	112-24-3
1,3,5-trimethylbenzene	1 - <10	108-67-8
n-propylbenzene	1 - <10	103-65-1
1,2,3-trimethyl benzene	1 - <10	526-73-8

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

SUB codes represent substances without registered CAS Numbers.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Section 4. First aid measures

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : Harmful if inhaled. Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.

Skin contact : Causes severe burns. May be harmful in contact with skin. Defatting to the skin. May cause an allergic skin reaction.

Ingestion : May be harmful if swallowed. Corrosive to the digestive tract. Causes burns. Can cause central nervous system (CNS) depression.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain
watering
redness

Inhalation : Adverse symptoms may include the following:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
dryness
cracking
blistering may occur

Ingestion : Adverse symptoms may include the following:
stomach pains

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use dry chemical, CO_2, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : Flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon oxides
nitrogen oxides
halogenated compounds

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor. Put on appropriate personal protective equipment. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 6. Accidental release measures

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Conditions for safe storage, including any incompatibilities : Store between the following temperatures: 0 to 35°C (32 to 95°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

xylene	**GBZ 2.1 (China, 7/2024) [Xylene]** PC-TWA 8 hours: 50 mg/m³. PC-STEL 15 minutes: 100 mg/m³.
1-methoxy-2-propanol	**ACGIH TLV (United States, 1/2025)** TWA 8 hours: 50 ppm. TWA 8 hours: 184 mg/m³. STEL 15 minutes: 100 ppm. STEL 15 minutes: 369 mg/m³.
1,2,4-trimethylbenzene	**ACGIH TLV (United States, 1/2025)**

Section 8. Exposure controls/personal protection

	TWA 8 hours: 10 ppm.
ethylbenzene	**GBZ 2.1 (China, 7/2024)** PC-TWA 8 hours: 100 mg/m³. PC-STEL 15 minutes: 150 mg/m³.
mesitylene	**ACGIH TLV (United States, 1/2025) [trimethyl benzene, isomers]** TWA 8 hours: 10 ppm.
1,2,3-trimethylbenzene	**ACGIH TLV (United States, 1/2025) [trimethyl benzene, isomers]** TWA 8 hours: 10 ppm.

Biological exposure indices

Ingredient name	Exposure indices
xylene isomers mixture	**GBZ 2.1 (China, 11/2022)** BEI: 0.4 g/L, methylhippuric acids [in urine]. Sampling time: end of work shift. BEI: 0.3 g/g Cr, methylhippuric acids [in urine]. Sampling time: end of work shift.
ethylbenzene	**GBZ 2.1 (China, 11/2022)** BEI: 0.8 g/g Cr, mandelic acid and phenylglyoxylic acid (MA and PGA) [in urine]. Sampling time: end of work shift.

Recommended monitoring procedures : Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye protection : Chemical splash goggles and face shield.

Skin protection

Section 8. Exposure controls/personal protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Gloves : nitrile neoprene

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Clear.

Odor : Characteristic.

Odor threshold : Not available.

pH : Not applicable.

Melting point/freezing point : Not available.

Boiling point : >37.78°C (>100°F)

Flash point : Closed cup: 32°C (89.6°F)

Evaporation rate : Not available.

Lower and upper explosive (flammable) limits : Not available.

Vapor pressure : Not available.

Vapor density : Not available.

Relative density : 0.95

Solubility(ies) :

Media	Result
cold water	Not soluble

Partition coefficient: n-octanol/water : Not applicable.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Section 9. Physical and chemical properties

Viscosity : Dynamic (room temperature): Not available.
Kinematic (room temperature): Not available.
Kinematic (40°C): >21 mm^2/s

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : When exposed to high temperatures may produce hazardous decomposition products.

Incompatible materials : Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.

Hazardous decomposition products : Depending on conditions, decomposition products may include the following materials: carbon oxides nitrogen oxides halogenated compounds

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Dose
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine	Rat - Dermal - LD50	>2000 mg/kg
-	Rat - Oral - LD50	>2000 mg/kg
xylene isomers mixture	Rat - Oral - LD50	4.3 g/kg
-	Rabbit - Dermal - LD50	1.7 g/kg
Solvent naphtha (petroleum), light aromatic	Rat - Oral - LD50	8400 mg/kg
-	Rabbit - Dermal - LD50	3.48 g/kg
1-methoxy-2-propanol	Rabbit - Dermal - LD50	13 g/kg
-	Rat - Oral - LD50	5.2 g/kg
-	Rat - Inhalation - LC50 Vapor	>7000 ppm [6 hours]
1,2,4-trimethylbenzene	Rat - Oral - LD50	5 g/kg
-	Rat - Inhalation - LC50 Vapor	18000 mg/m^3 [4 hours]
2,4,6-tris(dimethylaminomethyl)phenol	Rat - Dermal - LD50	1280 mg/kg
-	Rat - Oral - LD50	1200 mg/kg
ethylbenzene	Rat - Oral - LD50	3.5 g/kg
-	Rabbit - Dermal - LD50	17.8 g/kg
-	Rat - Inhalation - LC50 Vapor	17.8 mg/l [4 hours]
3,6-diazaoctanethylenediamin	Rabbit - Dermal - LD50	1465 mg/kg
-	Rat - Oral - LD50	1716 mg/kg
1,3,5-trimethylbenzene	Rat - Oral - LD50	5000 mg/kg
-	Rat - Inhalation - LC50 Vapor	24000 mg/m^3 [4 hours]
n-propylbenzene	Rat - Oral - LD50	6040 mg/kg
1,2,3-trimethyl benzene	Rat - Oral - LD50	11.4 g/kg

Section 11. Toxicological information

Product Conclusion : There are no data available on the mixture itself.

Skin corrosion/irritation

Product/ingredient name	Species	Dose	Score
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine	Human - Skin - Irritant	-	-
xylene isomers mixture	Rabbit - Skin - Moderate irritant	Amount/concentration applied: 500 mg Duration of treatment/exposure: 24 hours	-

Conclusion/Summary : There are no data available on the mixture itself.

Serious eye damage/eye irritation

Product/ingredient name	Species	Dose	Score
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine	Rabbit - Eyes - Severe irritant	-	-

Conclusion/Summary : There are no data available on the mixture itself.

Respiratory corrosion/irritation

Conclusion/Summary : There are no data available on the mixture itself.

Sensitization

Product/ingredient name	Species	Result
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine	Mouse - skin	Sensitizing
3,6-diazaoctanethylenediamin	Guinea pig - skin OECD 406	Sensitizing

Skin

Conclusion/Summary : There are no data available on the mixture itself.

Respiratory

Conclusion/Summary : There are no data available on the mixture itself.

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself.

Carcinogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Classification

Product/ingredient name	IARC
xylene isomers mixture	3
ethylbenzene	2B

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself.

Specific target organ toxicity (single exposure)

Section 11. Toxicological information

Product/ingredient name	Result
Solvent naphtha (petroleum), light aromatic	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
1-methoxy-2-propanol	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
1,2,4-trimethylbenzene	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
1,3,5-trimethylbenzene	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
n-propylbenzene	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
1,2,3-trimethyl benzene	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Result
ethylbenzene	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

Aspiration hazard

Product/ingredient name	Result
Solvent naphtha (petroleum), light aromatic	ASPIRATION HAZARD - Category 1
ethylbenzene	ASPIRATION HAZARD - Category 1
n-propylbenzene	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : Harmful if inhaled. Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.

Skin contact : Causes severe burns. May be harmful in contact with skin. Defatting to the skin. May cause an allergic skin reaction.

Ingestion : May be harmful if swallowed. Corrosive to the digestive tract. Causes burns. Can cause central nervous system (CNS) depression.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain
watering
redness

Inhalation : Adverse symptoms may include the following:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
dryness
cracking
blistering may occur

Section 11. Toxicological information

Ingestion : Adverse symptoms may include the following:
stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Conclusion/Summary : There are no data available on the mixture itself.

General : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
SIGMACOVER 456 KRA HARDENER	4388.1	2750.6	N/A	19.9	2.3
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine	2500	2500	N/A	N/A	N/A
xylene isomers mixture	4300	1700	N/A	11	1.5
Solvent naphtha (petroleum), light aromatic	8400	3480	N/A	N/A	N/A
1-methoxy-2-propanol	5200	13000	N/A	N/A	N/A
1,2,4-trimethylbenzene	5000	N/A	N/A	18	1.5
2,4,6-tris(dimethylaminomethyl)phenol	1200	1280	N/A	N/A	N/A
ethylbenzene	3500	17800	N/A	17.8	1.5
3,6-diazaoctanethylenediamin	1716	1465	N/A	N/A	N/A
1,3,5-trimethylbenzene	5000	N/A	N/A	24	N/A
n-propylbenzene	6040	N/A	N/A	N/A	N/A
1,2,3-trimethyl benzene	11400	N/A	N/A	N/A	N/A

Other information :

Section 11. Toxicological information

Causes digestive tract burns. Prolonged or repeated contact may dry skin and cause irritation. Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. Avoid contact with skin and clothing. Exposure to amine vapor has been reported to cause transient corneal edema described as blue haze, halo effect, foggy or blurred vision for several hours. This condition is typically temporary and does not cause permanent visual effects. When the proper eye protection specified in Section 8 is worn, exposure is significantly reduced and the condition has not been observed.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Dose / Exposure
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine	EC10	Algae	1.78 mg/l [72 hours]
Solvent naphtha (petroleum), light arom.	Acute - LC50	Fish	8.2 mg/l [96 hours]
1-methoxypropan-2-ol	Acute - LC50 - Fresh water	Fish - Goldfish	>4500 mg/l [96 hours]
	Acute - LC50	Daphnia - Daphnia	23300 mg/l [48 hours]
2,4,6-tris (dimethylaminomethyl)phenol	Acute - LC50	Daphnia	>100 mg/l [48 hours]
	Acute - LC50	Fish	>100 mg/l [96 hours]
ethylbenzene	Acute - EC50 - Fresh water	Daphnia	1.8 mg/l [48 hours]
	Chronic - NOEC - Fresh water	Daphnia - *Ceriodaphnia dubia*	1 mg/l

Conclusion/Summary : Not available.

Persistence/degradability

Product/ingredient name	Test	Result	Dose / Inoculum
2,4,6-tris (dimethylaminomethyl)phenol	OECD [Ready Biodegradability - Closed Bottle Test]	4% [28 days] - Not readily	
ethylbenzene	-	79% [10 days] - Readily	

Conclusion/Summary : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine	-	-	Not readily
xylene isomers mixture	-	-	Readily
2,4,6-tris (dimethylaminomethyl) phenol	-	-	Not readily
ethylbenzene	-	-	Readily

Bioaccumulative potential

Section 12. Ecological information

Product/ingredient name	$LogP_{ow}$	BCF	Potential
xylene isomers mixture	3.12	7.4 to 18.5	Low
1-methoxy-2-propanol	<1	-	Low
1,2,4-trimethylbenzene	3.63	120.23	Low
2,4,6-tris (dimethylaminomethyl)phenol	0.219	-	Low
ethylbenzene	3.6	79.43	Low
3,6-diazaoctanethylenediamin	-1.66 to -1.4	-	Low
1,3,5-trimethylbenzene	3.42	186.21	Low
n-propylbenzene	3.69	-	Low
1,2,3-trimethyl benzene	3.66	194.98	Low

Mobility in soil

Soil/Water partition coefficient : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	China	UN	IMDG	IATA
UN number	UN3469	UN3469	UN3469	UN3469
UN proper shipping name	PAINT, FLAMMABLE, CORROSIVE	PAINT, FLAMMABLE, CORROSIVE	PAINT, FLAMMABLE, CORROSIVE	PAINT, FLAMMABLE, CORROSIVE
Transport hazard class(es)	3 (8)	3 (8)	3 (8)	3 (8)
Packing group	III	III	III	III

Section 14. Transport information

Environmental hazards	Yes. The environmentally hazardous substance mark is not required.	Yes. The environmentally hazardous substance mark is not required.	Yes.	Yes. The environmentally hazardous substance mark is not required.
Marine pollutant substances	Not applicable.	Not applicable.	(Polyamide)	Not applicable.

Additional information

CN : None identified.

UN : None identified.

IMDG : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.

IATA : The environmentally hazardous substance mark may appear if required by other transportation regulations.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not applicable.

Section 15. Regulatory information

China inventory (IECSC) : All components are listed or exempted.

References : Production Safety Law of the People's Republic of China
Code of Occupational Disease Prevention of the People's Republic of China
Ecological Environment Code of the People's Republic of China
Fire Control Law of the People's Republic of China
Hazardous Chemicals Safety Law of the People's Republic of China
Occupational exposure limits for hazardous agents in the workplace chemical hazardous agents (GBZ2.1)
Specification for classification and labelling of chemicals according to Part 1: General rules (GB 30000.1-2024)
Safety data sheet for chemical products - Content and order of sections (GB/T16483)
Guidance on the compilation of safety data sheet for chemical products (GB/T17519)
General rule for preparation of precautionary label for chemicals (GB15258)
Safety rules for classification, precautionary labeling and precautionary statements of chemicals (GB30000.2-30)

Section 16. Other information

History

Date of issue/Date of revision : 29 August 2026

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Date of previous issue : 6/1/2026

First issue date : 4/20/2025

Section 16. Other information

Prepared by : EHS

Key to abbreviations : ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
UN = United Nations

Indicates information that has changed from previously issued version.

Notice to reader

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.